

PART W50**SUNDRIES****CONTENTS**

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1. GENERAL

- .1 This Part refers to work affecting any furniture, fixture or attachment to the jetty such as: jetty lights, power outlets, electric cables, water services, signs, navigation beacons, handrail, lifebuoy boxes, cranes, railway lines, fuel lines and dispensers, ladders, steps, ramps and bollards. It may involve repair, replacement or installation of new fixtures or attachments.
- .2 Documents referenced in this Part are listed below:
 - (a) AS 1214: Hot-dip Galvanised Coatings on Threaded Fasteners.
 - (b) AS 1657: Fixed Platforms, Walkways, Stairways and Ladders - Design, Construction and Installation.
 - (c) AS 1664: SAA Aluminium Structures Code – Limit State Design.
 - (d) AS 1720: SAA Timber Structures Code – Design Methods.
 - (e) AS 2053: Conduits and Fittings for Electrical Installations.
 - (f) AS 2334: Steel Nails – Metric Series.
 - (g) AS 2648.1: Underground Marking Tape.
 - (h) AS 3000: Electrical Installations (known as the Australia/New Zealand Wiring Rules).
 - (i) AS 3004: Electrical Installations – Marinas and recreational boats.
 - (j) AS 4680: Hot Dip Galvanised (Zinc) Coating on Fabricated Ferrous Articles.
- .3 The work shall be undertaken in accordance with the following drawings:
 - (a) Drawing No. S-6997: Jetty Construction – Sheet 1, Typical Jetty Layout

These drawings are available from the following web site http://www.dpti.sa.gov.au/documents/marine_facilities2

4. Materials which are not reused are the property of the Contractor and shall be removed from the site. Subject to the approval of the Principal, materials which are sound may be re-used in the works. Removed (temporarily or permanently) materials shall not be allowed to encroach on to adjoining property, including public places, unless approved by the Principal. The Contractor's responsibility in regard to disposal of surplus materials is shall be detailed in their Environmental Management Plan.

2. HANDRAILS

- .1 Where specified on the Drawings or Scope of Contract, the existing handrail shall be repaired and/or components removed and replaced to match that of existing to the satisfaction of the Principal.
- .2 The handrail system shall be either of the following as specified on the Drawings or Scope of Contract:

Timber Post and Handrail (to match existing)

- .3 This system shall comply with the guardrail provisions of AS 1657.
- .4 Posts shall be 90 mm x 90 mm Hardwood DAR (Dressed all Round). Top rails shall be 90 mm x 90 mm Hardwood moulding DAR or 50 mm galvanised steel pipe. Hardwood rails shall have their top corners machined to a 25 mm radius as shown on Drawing No. S – 6997, Sheet 1.
- .5 Intermediate steel cable shall be 7/3.25 strand, galvanised steel wire rope, threaded through pre-drilled holes in posts and tensioned and tied off with 3 wire rope grips at terminal posts.
- .6 The top rail shall be connected to posts by 150 mm galvanised bugle screws, screwed vertically through the handrail into the top of the post. These screws shall be countersunk to be flush with the surface of the handrail. Prior to attaching the rail to the post both should be predrilled to prevent the timber from splitting.

- .7 Hardwood posts shall be fixed to the outside vertical face of edge girders with two M16 galvanised bolts. Where spacer blocks are required to be used to maintain the longitudinal alignment of the timber posts the blocks shall be as follows:
 - (a) for horizontal gaps between the vertical face of the edge girder and the post greater than 50 mm, hardwood timber or approved plastic spacers shall be used; and
 - (b) for horizontal gaps between the vertical face of the edge girder and the post less than 50 mm, only approved plastic blocks shall be used.
- .8 All spacer blocks shall be the full length of the vertical face of the edge girder and shall be bolted to the vertical face of the edge girder by the post bolts.
- .9 The finish on the handrail shall be:
 - (a) For prime coat, one coat of acrylic undercoat;
 - (b) For top coat, two coats of approved UV stabilised acrylic paint (white).

Steel Tubular Handrail

- .10 Where specified, the Contractor shall use "Monowills Standard Handrail System" or similar and approved. Installation of handrail shall be in accordance with AS 1657. Two washers (one at the head and one at the nut) shall be installed for each bolt.
- .11 If Type SO has been specified on the Drawings, the handrail shall be bolted to the outside vertical face of the edge girder with two M16 galvanised bolts where practicable.
- .12 If any other type of handrail is specified on the Drawings the handrail shall be fixed to the kerbing or decking using M16 galvanised bolts and a 10 mm backing plate.
- .13 All components shall be hot-dip galvanised in accordance with AS 4680.

3. STAIRS/PLATFORMS/LADDERS AND RAMPS

- .1 New ladders and associated fixings/connections shall be constructed from marine grade aluminium (Alloy 6061 T6), unless specified otherwise on the Drawings. Steps, platforms and ramps shall be constructed of timber unless specified otherwise on the Drawings.
- .2 The stairs, platforms, ramps and ladders shall be designed and installed to comply with AS 1657. All ladders shall be of "Walk Through" design.
- .3 Aluminium ladders shall comply with AS 1664. Stiles shall be constructed of tube not less than 48.4 mm diameter and 4.4 mm wall thickness. Stiles shall have a return to the decking and shall be free of sharp corners. The stiles shall have a single bend of minimum 225 mm radius.
- .4 All timber steps, ladders, platforms and ramps shall comply with AS 1720. Where these are to replace existing steps, ladders, platforms and ramps, the overall dimensions of the new work shall generally be the same as the existing.
- .5 Four weeks prior to the manufacture, the Contractor shall provide shop drawings for approval prior to commencing manufacture and shall constitute a **HOLD POINT**.

4. ELECTRICAL

General

- .1 All electrical work shall comply with or exceed AS 3000.
- .2 The Contractor is responsible for disconnecting and reconnecting all electrical services.
- .3 The Principal shall supply all materials for electrical work as detailed in the Scope of Contract.
- .4 The Contractor shall install all lighting and power fittings in accordance with AS 2053 and AS 3004.

Conduits

- .5 Underground electrical conduits shall be heavy duty rigid PVC conduit to AS 2053, colour orange. Marking tape shall comply with the requirements of AS 2648.1. Under jetty deck conduits shall be UV Rated, PVC, colour grey, medium/ordinary duty rigid conduit with flexible conduit tails for terminations and bends, to AS 2053.
- .6 Unless otherwise specified, the minimum size of conduit shall be as presented in Table 4.1.

Conduit (under jetty)	32 mm
Conduit (under-road)	80 mm
Conduit (general underground)	50 mm.

- .7 Conduit joints shall be thoroughly cleaned of dirt and grease and burrs removed where any conduit is cut to length, before being cemented together using a solvent cement approved by the conduit manufacturer.
- .8 Draw cords shall be installed in all electrical conduits and be continuous and without joins for the full length of the conduit. A 1 m length "tail" shall be provided at each end of the draw cord. Tails shall be coiled and neatly laid in the relevant area. Draw cords shall be 4 mm diameter polyethylene mono rope with a breaking load of 5 kN. Except in the case of under jetty conduits, draw cords shall remain in the conduit following installation of cables.
- .9 All conduit saddles shall be 316 grade Stainless Steel fixed with suitable Stainless Steel screws.

Lighting and Power Outlets

All electrical cable connections are to be at the switchboard or Jetty abutment, supply point, luminaires, pole tops and power bollards only, cable joints at or below deck level are not permitted due to the danger of wave action and king tides flooding the electrical connections

Install new jetty lighting cable 16 mm 2 Core & E orange circular.

The installation of lighting and/or power outlets (where specified) shall be in accordance with the Drawings.

HOLD POINTS

5. HOLD POINTS

- .1 The following is a summary of Hold Points referenced in this Part:

CLAUSE REF.	HOLD POINT	RESPONSE TIME
3.5	Shop drawings of stairs/platforms/ladders and ramps	4 weeks